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Operating and servicing instructions

Air Top 2000 S

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General information

Dear Webasto user
We presume that the principle and mode of operation of your new heater has been explained to your complete satisfaction by the workshop / service centre which installed the heater. This manual summarizes the main points of importance for using the heaters Air Top 2000 S.

Maintenance and safety instructions

The **Air Top 2000 S** heater has been type-tested and approved in accordance with EC Directives 72/245/EEC (EMC) and 2001/56/EC (heater) with the following EC permit numbers:

e1*72/255*95/54*1085*--
e1*2001/56*0014*--

NOTE:
The provisions of these Directives are binding within the territory governed by EU Directive 70/156/EEC and should similarly be observed in countries without specific regulations!
The heaters must be installed as described in the installation instructions. The installation must be tested in compliance with the statutory regulations for the installation. For further details refer to the installation instructions.
The year in which the heater was used for the first time must be permanently displayed on the factory plate be deleting the inapplicable years from the plate.
The heaters are not designed for heating hazardous substance transport compartments. To install the Air Top 2000 S heater in hazchem vehicles, the requirements of ADR/RID part 9 para. 9.2.4.7 Combustion heating systems, must also be satisfied.

Keep the hot air inlet and hot air outlet free of dirt and foreign bodies. Contaminated or blocked hot air lines may cause overheating and thus result in the overheating cut-out tripping.

Do not stand on the heater and do not place any heavy items on the heater or throw items at the heater.

Do not place any items of clothing, textiles or similar materials over the heater or in front of the hot air inlet and the hot air outlet.

The current of hot air in the heater must not be restricted or blocked by highly inflammable substances or materials such as rags, cleaning wool, etc.

Ident-Nr. 9000155B 05/0406

The heater **must not be operated:**

Risk of explosion and asphyxiation

- at filling stations or tank farms.
- in places where inflammable vapours or dust may form (for example near fuel, coal, wood dust or cereal stores).
- in enclosed areas (for example garages), not even if you use the timer or Telestart.

The heater **must not**:

- be exposed to temperatures over +85°C. If it is exposed to temperatures above this level the electronics may suffer permanent damage.
- be cleaned using a high pressure cleaner.

The heater **must**:

- be operated with the fuel specified by the manufacturer (petrol for the Air Top 2000 S B heater). Both leaded and unleaded fuel may be used.
  It must be operated with the fuel specified by the manufacturer (diesel for the Air Top 2000 S D heater). Class EL heating oil (not L heating oil) may also be used as long as it complies with the normal quality available on the German market pursuant to DIN 51603.
  The Air Top 2000 S D heater may also be operated using PME (bio diesel), which complies with DIN EN 14124. We know of no negative influences due to additives.
  If fuel is extracted from the vehicle's tank, follow the additive instructions issued by the vehicle manufacturer.
  If you change to low-temperature fuel, the heater must be operated for approx. 15 minutes so that the fuel system is filled with the new fuel.
- be shut down by removing the fuse if lots of smoke, unusual combustion noise or a smell of fuel develops. Do not restart it until the heater has been tested by Webasto-trained personnel.
- be started at least one per months with a cold engine and at the lowest blower setting for 10 minutes. The heater must be checked by an expert at the latest at the start of the cold weather.

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Liability claims:

- Failure to follow the installation instructions and the notes contained therein will lead to all liability being refused by Webasto. The same applies if repairs are carried out incorrectly or with the use of parts other than genuine spare parts. This will result in the invalidation of the type approval for the heater and therefore of its homologation / EC type licence.
- Liability claims will only be accepted if the claimant can verify that he has complied with the servicing and safety instructions.

The heat exchanger in the air heater can be used for a maximum of 10 years and must then be replaced by the manufacturer or one of its contract workshops using a genuine spare part.

If exhaust lines pass through areas used by personnel they must also be replaced by genuine spare parts after 10 years.

Control element

Changes to the settings on the control element are implemented after a delay.

Rotary knob for:
- Switching on and off
- Setting the room temperature
- Resetting after a fault cut-out

Indicator / Error code display

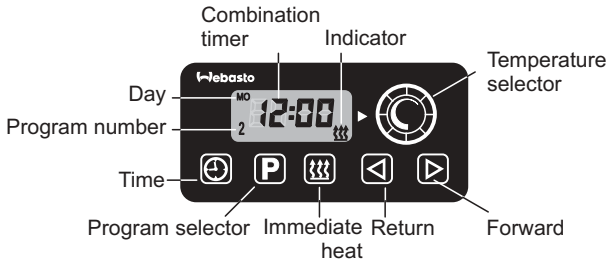
To switch on

Set the rotary knob on the control element to the required temperature.

NOTE:
To prevent the hot and combustion air fan from blocking or scraping, ensure that there are no objects on or against the heater before you switch it on.

NOTE for ADR operation only:
The Air Top 2000 S heater is switched on and off by hand using a switch. Automatic controls must not be used.
In class FL vehicles these heaters must not be used during loading and unloading procedures or at loading points.
In class FL vehicles the heaters are switched off automatically and the combustion air supply is interrupted for a maximum of 40 seconds if:
– the vehicle's engine is at a standstill; in this case the heater can be switched on again by hand.
– a pumping device that is part of the vehicle is started. The control unit is then in fault lock-out mode.
The ON/OFF switch must be set to OFF before the heater can be restarted.

Combination timer



General	The combination timer allows the heater start time to be selected for a period of up to seven days. Three cut-in times can be programmed, although only one of them may be activated. The combination timer has a temperature setpoint generator. When the ignition is switched on the timer shows the current time and the day. If the heater is operating the display and the buttons are lit. When the timer is connected to the power supply all the symbols in the display will flash. The time and day must be set. The display remains blank in ADR vehicles.
Operation	The operation of the timer is designed such that all the flashing symbols can be adjusted using the ◀ and ▶ buttons. If no button is pressed for five seconds the displayed time is saved. If the ◀ and ▶ are pressed for longer than two seconds, they will switch to high speed adjustment. If the ignition is switched off whilst the heater is in permanent heating mode, a remaining operating time of 15 minutes will appear on the display and the heater will continue to operate.
Error code	On heaters that output an error code (Air Top 2000 S), a number, the error code, may appear in the display. In this case you should visit a Webasto service outlet.

Switch on	Manual: Press the ♨ button (permanent heating mode) Automatic: By programming the start time
Switch off	Manual: Press the ♨ button again Automatic: By programming the operating period When the heater is operating: By setting the remaining time
Set time/date	Press the 🕒 button for more than two seconds - the time will flash - set the time using the ◀ and ▶ buttons - the day will flash - set the day.
View time	Ignition off: Press 🕒 button.
Program Start time	Press P button - program number will flash - set the start time using the ◀ and ▶ buttons - the day will flash - set the day. If you press the P button several times you can set program numbers 2 and 3 or go to time mode.
View/Delete selected times	Press the P button several times until the required program number is displayed. To delete the selected time - press the P button until the time is displayed with no program numbers.
Program operating time	The heater must be switched off. Press the ◀ button for three seconds - the operating duration will flash - set the required operating duration using the ◀ and ▶ buttons (10 to 120 minutes).
Set remaining time	Set the required remaining time (1 to 120 minutes) using the ◀ and ▶ buttons. The remaining time is the time that the heater will continue to operate. It can only be changed whilst the heater is operating and the ignition is off.
Remote control	Possible using an external optional immediate heat button.
Vehicles with ADR equipment	It is not possible to set a time on ADR vehicles. The remaining time will be shown on the display whilst the heater is operating. The time can be adjusted.

Troubleshooting

If an error occurs, first check the fuse and plug connections to ensure that they are in perfect condition and connected correctly.
If the action described below does not rectify the error, have the heater checked by Webasto-trained personnel.

Heater cuts out automatically

Cause	Remedy
No combustion after start and repeat start	Switch the heater off (wait at least 2 seconds) and then on again
Flame extinguishes during operation	Switch the heater off (wait at least 2 seconds) and then on again
Heater overheats Indicator flashes	Check that the hot air can flow freely. Allow the heater to cool. Switch the heater off (wait at least 2 seconds) and then on again
Vehicle voltage too low	Charge battery Switch the heater off (wait at least 2 seconds) and then on again

Black smoke is emitted from the heater

Cause	Remedy
Combustion air and/or exhaust system blocked	Check combustion air and exhaust system for blockages

NOTE for ADR mode only:
After an ADR cut-out or the application of operating voltage by switching on the main vehicle switch and setting the control element to ”ON” the control unit will be set to the “Fault cut-out” position.
Before the heater can be restarted the control element must be set to “OFF” or the immediate heat button on the combination or standard timer must be pressed.

Error code output on combination timer or control element

If the system is fitted with a combination timer, when an error occurs an error code is output on the timer's display until the heater has been rectified.

If the system is fitted with a control element, when an error occurs an error code is output by the indicator/error code display flashing. After a burst of fast flashes the error code will be output by a sequence of long flashes, the number of which is shown in the table below. The error code will continue until the heater is reset.

Meaning of error code

F 01	No start (after 2 attempts to start)
F 02	Flame failure (at least > 5)
F 03	Undervoltage or overvoltage
F 04	Premature flame recognition
F 05	Flame monitor interrupt or flame sensor short-circuit
F 06	Temperature sensor interrupt or temperature sensor short circuit
F 07	Metering pump short circuit
F 08	Fan motor interrupt or fan motor short circuit or fan motor overload or blocked
F 09	Glow plug interrupt or glow plug short circuit
F 10	Overheating

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